



2017 Spring Electrofishing (SEII) Summary Report

Iola Millpond (WBIC 278800)

Waupaca County

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Introduction and Survey Objectives

In 2017, the Department of Natural Resources conducted a one night electrofishing survey of Iola Millpond in order to provide insight and direction for the future fisheries management of this water body. Primary sampling objectives of this survey were to characterize species composition, relative abundance, and size structure of the fish community. The following report is a brief summary of that survey including the general status of the fish populations and future management options for Iola Millpond.

Acres: 220

Shoreline Miles: 4.74

Maximum Depth (feet): 9

Lake Type: Impoundment

Public Access: One Public Boat Launch

Regulations: Statewide Default Regulations

WISCONSIN DNR CONTACT INFO.

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Survey Information

Site location	Survey Date	Water Temperature (°F)	Target Species	Total Miles Shocked	Number of Stations	Gear	Number of Netters
Iola Millpond	5/16/2017	69	All	1.5	3	Boomshocker	2

Fish Metric Descriptions PSD, CPUE, and LFD

Proportional Stock Density (PSD) is an index used to describe size structure of fish populations. It is calculated by dividing the number of quality size fish by the number of stock size fish for a given species. PSD values between 40 - 60 generally describe a balanced fish population.

Catch per unit effort (CPUE) is an index used to measure fish population relative abundance, which simply refers to the number of fish captured per unit of distance or time. For electrofishing surveys, we typically quantify CPUE by the number and size of fish per mile of shoreline. CPUE indexes are compared to statewide data by percentiles. For example, if a CPUE is in the 90th percentile, it is higher than 90% of the other CPUEs in the state.

Length frequency distribution (LFD) is a graphical representation of the number or percentage of fish captured by half inch or one inch size intervals. Smaller fish (or younger age classes) may not always be represented in the length frequency due to different habitat usage or sampling gear limitations.

Survey Method

- Iola Millpond was sampled according to spring electrofishing (SEII) protocols as outlined in the statewide lake assessment plan. The primary objective for this sampling period is to count and measure adult bass and panfish. Other gamefish may be sampled but are considered by-catch as part of this survey.
- One and a half miles of shoreline were sampled with a boomshocker. All fish captured were identified to species and gamefish and panfish were measured for length.
- Fish metrics used to describe fish populations include proportional stock density, catch per unit effort, and length frequency distributions.



Size Structure Metrics

Species	Total	Average Length (inches)	Length Range (inches)	Stock and Quality Size (inches)	Stock Number	Quality Number	PSD	Percentile Rank	Size Rating
BLUEGILL	209	5.9	1.6 - 9.4	3.0 and 6.0	200	95	48	75	High
PUMPKINSEED	35	5.2	2.3 - 7.6	3.0 and 6.0	32	8	25	51	Moderate
LARGEMOUTH BASS	41	9.5	2.8 - 20.2	8.0 and 12.0	22	16	73	77	High
YELLOW PERCH	15	5.9	4.1 - 7.1	5.0 and 8.0	14	0	0	0	Low

Abundance Metrics

Species	CPUE Total (number per mile)	Percentile Rank	Overall Abundance Rating	Length Index	Length Index CPUE	Length Index Percentile Rank	Length Index Abundance Rating
BLUEGILL	139.3	66	Moderate - High	≥ 7.0 inches	23.3	81	High
PUMPKINSEED	23.3	81	High	≥ 7.0 inches	2.7	82	High
LARGEMOUTH BASS	27.3	70	High	≥ 14 inches	8.7	84	High
YELLOW PERCH	10.0	53	Moderate	≥ 10 inches	0.0	0	Low



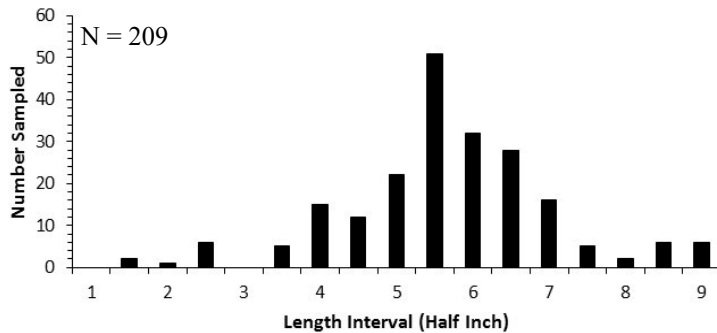
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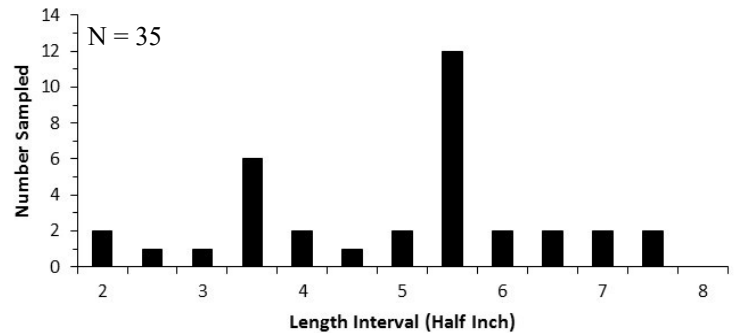
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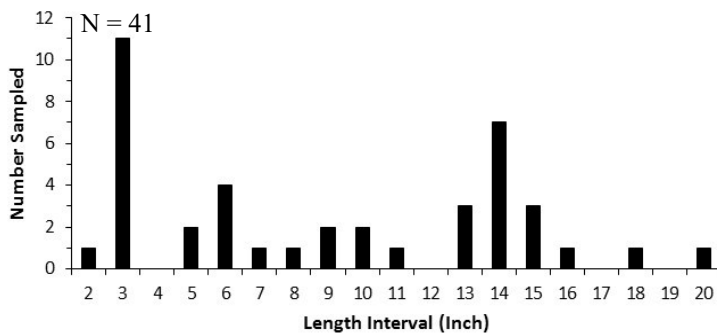
Bluegill Length Frequency



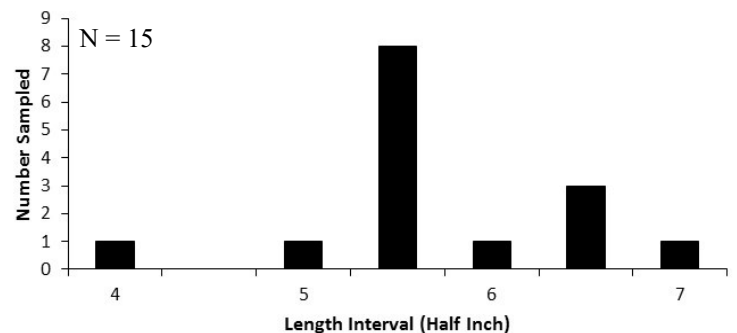
Pumpkinseed Length Frequency



Largemouth Bass Length Frequency



Yellow Perch Length Frequency



Summary

- A total of 469 fish from 11 species were collected during our survey. The most frequently encountered and common species were bluegill (209), lake chubsucker (116), largemouth bass (41) and pumpkinseed (35).
- Other fish species sampled in low abundance include yellow bullhead (15), yellow perch (15), black crappie (9), white sucker (9), golden shiner (7), rock bass (5), northern pike (4), back bullhead (3), and pumpkinseed x bluegill hybrid (1).
- All fish captured were native species.
- Largemouth bass were the dominant gamefish captured in our survey. Size structure and abundance were at high levels. 32% of the largemouth bass captured were >14" (e.g., the legal size), with the biggest being just over 20".
- Only four northern pike were captured. However, fyke netting would be a more appropriate sampling technique to assess the northern pike population.
- Bluegill and pumpkinseed were the dominant panfish species sampled. Bluegill abundances were found at moderate - high levels whereas size structure was found at high levels. Pumpkinseed were found at high densities with 23% being larger than six inches. 45% of the bluegill captured were >6 inches and 17% were >7 inches indicating plenty of harvestable size bluegills in the population.
- Fifteen yellow perch and nine black crappies were captured. Most of the individuals captured from these two species were small; the biggest yellow perch captured was 7.1 inches and only three black crappies larger than 7.5 inches were captured. However, the largest black crappie captured was 13.8 inches.

Management Options

This survey was primarily intended to assess largemouth bass and panfish populations. Other species are captured but different survey techniques are typically used to better assess their populations. Therefore, management recommendations are focused on bass and panfish.

Largemouth Bass

- Largemouth bass have recovered nicely and were found at optimal levels. Densities and size structure were high. Abundant forage including bullheads, suckers, and panfish likely fueled fast growth rates following the drawdown. Smaller largemouth bass that should grow to sizes desired by anglers in the next couple of years were also captured. No management action recommended at this time.

Panfish

- Bluegill have also recovered nicely, showing a balanced population with harvestable sized individuals as well as smaller individuals that will grow to harvestable sizes in the next couple of years. Predator densities should be maintained at current levels to ensure bluegill do not become overpopulated and growth slows.
- Local anglers have expressed interest in having quality yellow perch and black crappie fisheries in Iola Millpond. While both species were sampled in low-moderate densities, most individuals were small. These smaller individuals should grow to harvestable size in the next couple of years. If future surveys indicate these two species continue to have lower than desired population densities, stocking could be considered as a way to enhance these fisheries.

Other Management Objectives

- Iola Millpond is on the rotation list for a comprehensive survey in 2020. This will include a fyke netting survey as well as spring electrofishing survey. The fyke netting survey will provide additional information regarding the recovery of the northern pike population following the drawdown.
- Continue to work with WDNR staff and the lake district to manage aquatic plants. High densities of invasive plants often inhibit the ability of predators to effectively forage resulting in slow growing predator populations. Additionally prey fish (e.g., bluegill) populations can become overabundant and slow growing when predators cannot effectively forage on them.